CLAIMS

1.   A method for transmitting information from a start node to a target node in a wavelength division multiplex optical communications network having a plurality of nodes, each of which includes a wavelength selective optical cross-connect having a plurality of switching fabrics (S1 to SN), each switching fabric (S1 to SN) being provided for switching wavelength channels of a specific wavelength, the method comprising: applying at least two wavelength channels having different wavelengths but which are modulated with the same information to an input (i'1) of switching fabrics (S1 to SN) of the start cross-connect provided for these wavelengths; transmitting the two wavelength channels to the target cross-connect; dropping the wavelength channels at outputs of different switching fabrics (S1 to SN) of the cross-connect provided for different wavelengths.

2.   A method according to Claim 1, characterized in that the at least two wavelength channels are routed via different intermediate cross-connects between the start and target cross-connects.

3.   A method according to Claim 2, characterized in that the at least two wavelength channels keep their wavelengths during transmission between the start and target cross-connects.

4.   A method according to Claim 2, characterized in that the wavelength of at least one of the wavelength channels is modified at an intermediate cross-connect.

5.   A method according to Claim 4, characterized in that routing paths of the wavelength channels are jointly defined by a central network controller, wherein the central controller chooses different wavelengths for transmission between a last intermediate cross-connect and the target cross-connect.

6.   A method according to Claim 4, characterized in that the wavelengths ($\lambda 1$ to λN) transmissible in the optical network are divided into at least two groups, wherein the wavelengths of the at least two wavelength channels are selected from different groups, and each wavelength modification of one of the channels at an intermediate cross-connect occurs between wavelengths of a same group.

7.   A node for a wavelength division multiplex optical communications network comprising: a wavelength selective optical cross-connect having a plurality of inputs for optical wavelength multiplex lines (I1, I2, O1, O2) and a plurality of switching fabrics (S1 to SN), wherein each switching fabric (S1 to SN) is provided for switching wavelength channels of specific wavelength and a plurality of add ports (i'1, ..., o'1, ...) for adding data traffic, characterized by a signal divider (DIV) for distributing an information signal to be added to at least two add ports (i'1) of switching fabrics (S1 to SN) provided for different wavelengths.

8.   A node according to Claim 7, characterized in that the signal divider (DIV) is an optical signal divider.

9.   A node according to Claim 7, characterized in that the signal divider (DIV) is an electrical signal divider, and that an opto-electrical transducer is provided between the signal divider and the add data traffic input ports (i'1) connected to it.

10.   A node for a wavelength division multiplex optical communications network comprising a wavelength selective optical cross-connect having a plurality of ports for optical wavelength multiplex lines (I1, I2, O1, O2) and a plurality of switching fabrics (S1 to SN), wherein each switching fabric (S1, ..., SN) is provided for switching wavelength channels having a specific wavelength and a plurality of drop ports (i'1, ..., o'1, ...) for dropping data traffic, characterized by a selector (SW) for selecting an information signal to be dropped at the node among drop data traffic output ports of switching fabrics (S1, ..., SN) provided for different wavelengths.

11.   A node according to Claim 9, characterized in that the selector (SW) is an optical switch.

12.   A node according to claim 10, characterized in that the selector (SW) is an electrical switch and that between the switch and the output ports connected to it, an opto-electrical transducer is provided.